

REMARKS

Favorable reconsideration and allowance of the claims of the present application are respectfully requested.

Applicants observe that Claims 1-5, 9 and 10 are pending and that Claims 6-8, 11 and 12 are withdrawn from consideration.

Before addressing the grounds of rejection raised in the present application, applicants have amended Claims 1-5, 9 and 10 in the manner indicated supra. Specifically, applicants have amended each of Claims 1-5, 9 and 10 to include proper U.S. claim language. Applicants observe that none of the amendments made to the claims in this response introduces new matter to the originally filed application. As such, applicants respectfully request entry of the foregoing amendments.

In the outstanding Office Action, Claims 1-5, 9 and 10 stand rejected under 35 U.S.C. § 103 as allegedly unpatentable over the combined disclosures of P.E. Eaton et al., "Polynitrocubanes: Advanced High-Density, High-Energy Materials", Advanced Materials, 200, 12, No. 15, August 2 ("Eaton et al.") and U.S. Patent No. 5,407,500 to Forsberg et al. ("Forsberg et al.").

With respect to the §103 rejection, applicants submit that the claims of the present invention are not rendered unpatentable by the disclosures of Eaton et al. and Forsberg et al., since none of the applied references teach or suggest applicants' claimed composition. Specifically, the combined references of Eaton et al. and Forsberg et al. do not teach or suggest a pyrotechnic composition comprising an oxidation agent selected from fluorinated spherical, carbocyclic cage molecules and polymers with such fluorinated cage molecules as monomers, and a fuel selected from a halophilic metal

combined with fluorine in an exothermic reaction and a metal alloy thereof, said pyrotechnic composition produces IR radiation.

Eaton et al., by itself, is defective since the applied reference does not teach or suggest a composition including an oxidation agent selected from fluorinated spherical, carbocyclic cage molecules and polymers with such fluorinated cage molecules as monomers, and a fuel selected from a halophilic metal combined with fluorine in an exothermic reaction and a metal alloy thereof, let alone that such a composition produces IR radiation. Instead, Eaton et al. discloses a novel powerful and less shock-sensitive explosive with comprises octanitrocubane (ONC). ONC is a cubane $(CH)_8$ in which all the hydrogens are replaced by nitro groups, where nitrogen is bound to carbon. In accordance with the applied reference, ONC can also be used as a propellant for rockets since no water forms when it burns and, as such, no visible smoke (steam) is left behind in the plume. Applicants observe that Eaton et al. does not teach or suggest that ONC is a pyrotechnic composition that generates IR radiation, let alone the claimed pyrotechnic composition of the present invention.

The secondary reference, i.e., Forsberg et al., does not alleviate the above defects in Eaton et al. since the applied secondary reference also does not teach or suggest the claimed pyrotechnic composition that generates IR radiation. Instead, Forsberg et al. discloses a salt composition and an explosive containing the same. The explosive composition of the applied secondary reference comprises a discontinuous oxidizer phase comprising at least one oxygen-supplying component, a continuous organic phase comprising at least one carbonaceous fuel, and a minor emulsifying amount of a composition comprising:

(A) at least one salt moiety derived from (A)(I) at least one high-molecular weight hydrocarbyl-substituted polycarboxylic acylating agent, said hydrocarbyl-substituent of said acylating agent (A)(I) having a number average molecular weight of at least about 280, and (A)(II) one or more members selected from the group consisting of ammonia, at least one amine, at least one alkali or alkaline earth metal, and at least one alkali or alkaline earth metal compound;

(B) at least one salt moiety derived from (B)(I) at least one low-molecular weight polycarboxylic acylating agent, said acylating agent (B)(I) optionally having at least one hydrocarbyl substituent having up to about 18 carbon atoms, and (B)(II) one or more members selected from the group consisting of ammonia, at least one amine, at least one alkali or alkaline earth metal, and at least one alkali or alkaline earth metal compound; said moieties (A) and (B) being coupled together (C) by at least one compound comprising component (C)(I) and optionally component (C)(II), Component (C)(I) being at least one oxazoline represented by the formula (I); optional component (C)(II) being at least one compound other than component (C)(I) having (i) two or more primary amino groups, (ii) two or more secondary amino groups, (iii) at least one primary amino group and at least one secondary amino group, (iv) at least two hydroxyl groups or (v) at least one primary or secondary amino group and at least one hydroxyl group.

None of the explosive components mentioned in Forsberg et al. teach or suggest the use of the claimed fluorinated carbocyclic cage molecule as an oxidation agent for a pyrotechnic composition that is capable of generating IR radiation.

Applicants observe that the Examiner refers to Col. 4, lines 50-58 of Forsberg et al. for disclosing the alleged equivalence of nitro substituents and fluoro substituents.

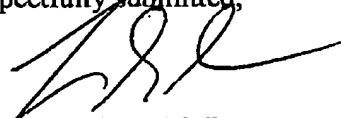
Although Forsberg et al. does mentioned the two substituents, it does in connection with the hydrocarbyl-substituted polycarboxylic acylating agent of the salt composition.

The §103 rejection also fails because there is no motivation in the applied references which suggest modifying the disclosed compositions to include the various elements recited in the claims of the present invention. Thus, there is no motivation provided in the applied references, or otherwise of record, to make the modification mentioned above. "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Vaeck, 947 F.2d, 488, 493, 20 USPQ 2d. 1438, 1442 (Fed.Cir. 1991).

The rejection under 35 U.S.C. §103 has been obviated; therefore reconsideration and withdrawal thereof is respectfully requested.

Thus, in view of the foregoing amendments and remarks, it is firmly believed that the present case is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,



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